

# A new South African bee mimic (Diptera: Asilidae)

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Some time ago the junior author received among other Asilids a peculiar, unknown laphriine robber fly, accompanied by a bee of the genus *Megachile* Latreille, 1802, which it closely resembles. Dr G. van Son of the Transvaal Museum, who sent the specimen, urged the junior author to identify and describe it. When finally identification had proved impossible, the specimen was referred to the senior author, who held the opinion that it represented a new genus and species. After some hesitation in founding a new taxon on a single specimen, it was deemed sufficiently important not to wait for more material; thus the following description is presented.

## Genus *AFROMELITTODES* gen. nov.

A laphriine robber fly of bee-like appearance. Face with a moderate swelling, which ends about as far below antennae as length of first antennal segment. Antennae (fig. 2) with first segment slightly inflated; second slightly shorter than first; third awl-shaped, ending in a very distinct, short cylindrical style with an apical pit and bristle. Proboscis (fig. 1) short, but very robust; labium very strong, hard, with a strong dorsal ridge, circular in cross-section; hypopharynx very strong, heavily chitinized ventrally and acutely pointed at tip. Palpi inflated, ovoid or nutshaped. Eyes slightly flattened anteroposteriorly, each with an area of enlarged facets facing forwards. Lower occiput appears to have a slight flange such as is found in the genus *Lamyra* Loew, 1851, but this is difficult to see clearly because of the dense cover of hairs. Prosternum large, contiguous with pronotum. Abdomen bee-like, segments compactly fitted together; preabdomen with seven visible segments in the male, genitalia rotated through about 120° clockwise. Legs strong, femora and tibiae moderately swollen; fore and middle tarsi, excluding the claws, about half as long as relevant tibiae, hind tarsi somewhat longer; tarsi compact, claws and pulvilli large and strong. Wings with closed and stalked marginal, first and fourth posterior and anal cells; the long narrow

first posterior cell with its long curved stalk and the small appendix to the fork of  $R_{4+5}$  are particularly characteristic. Hind margin of wing incompletely sclerotized.

Type species: *Afromelittodes solis* spec. nov.

The new genus is thus mainly characterized by a combination of characters of antennae, abdomen and wings. The general appearance of the fly is obviously mimetic, because the single known specimen resembles the bee *Megachile felina* Gerst. very closely. It therefore also resembles other genera of Asilidae that mimic bees, such as *Dasyllis* Loew, 1851, *Hyperechia* Schiner, 1866 and even *Mallophora* Macquart, 1834, though these resemblances may be superficial and have no significance in indicating relationships, being merely examples of convergence. The similarity in wing venation to the mentioned genera should be particularly noted.

*Afromelittodes* belongs to the Laphriinae, though there are no true bristles on the mesopleuron. In this and other respects, including the incompletely sclerotized hind margin of the wing, the new genus has affinities with some of the genera related to *Laphystia* Loew, 1847, which Hermann (1905, 1920) isolated as Prytaniini, a tribe of the Dasypogoninae. The senior author is inclined to the view that these genera should be transferred to the Laphriinae, from which they cannot be adequately separated; the new genus reinforces that view. In that case the subfamily Laphriinae should be redefined.

*Afromelittodes solis* spec. nov., figs. 1-4

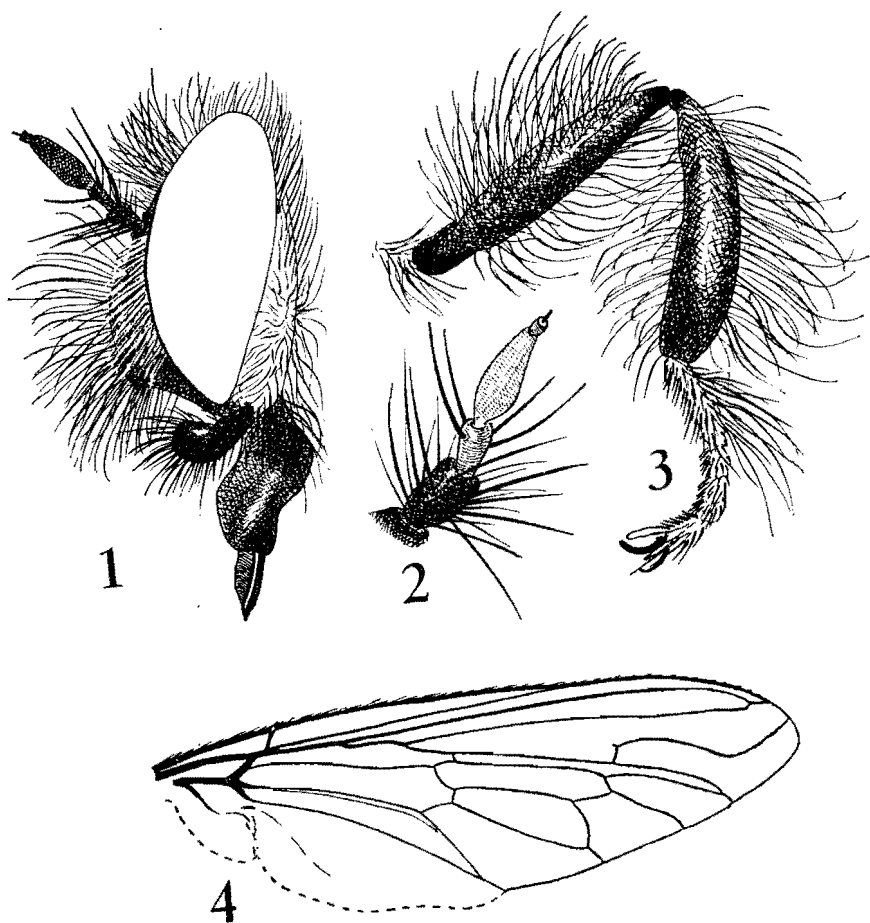
A close mimic of the bee *Megachile felina* Gerst.; body shining black obscured by a dense cover of greyish white hairs.

**MALE:** *Head* (fig. 1) densely hairy. Eyes uniformly brownish-black. Moustache black at sides and below, with brownish hairs on the top; along margin of eyes, below antennae, a band of glistening, silky white hairs. Frons with black hairs; vertex and occiput with white hairs behind eyes and black hairs in posterior hollow of occiput. Antennae (fig. 2) black, first segment mahogany-red at tip, third segment a little brownish; stiffest and longest bristles and hairs black, weaker and shorter ones white. Proboscis and palpi shining black, palpi with long very stiff, black bristles, but bases of proboscis, palpi and lower occiput with orange-yellow hairs.

*Thorax* with shining black dorsum, which under a certain incidence of light shows a bluish bloom. Uniformly covered with greyish white hairs, which are longer and more upturned on scutellum. Laterally there are occasional stiffer hairs (almost bristles), a few of which are black. Pleura with faint grey dusting, hairs mostly greyish-white; black hairs on prothorax, also a few on mesopleuron and metapleuron; yellow hairs on prosternum and coxae. Legs (fig. 3) with somewhat bowed tibiae. Middle and hind legs extensively mahogany-red; fore femora partly black. Hairs long and dense,

as a rule yellow towards base of each leg and white down to tips of tibiae; the latter and tarsi with black hairs. Fore and middle femora slightly swollen, hind femora less so; all tibiae slightly clavate. Wings as in fig. 4, with membrane faintly stained brown, especially along the dark brown veins and in subcostal and marginal cells. Halteres pale brown, knobs dark brown, cup-shaped.

*Abdomen* rather flattened dorsoventrally, tapering posteriorly to a certain degree, shining black with a faint bluish bloom. Dorsally almost obscured



Figs. 1-4. *Afromelittodes solis* gen. et spec. nov... ♂-holotype. 1. Head from left side, enlarged; 2. right antenna, highly enlarged; 3. left hind leg, enlarged; 4. right wing, actual length 14 mm. H. Oldroyd del.

by moderately long, crisp white or yellowish-white hairs; black hairs on anterior margin of first segment extend across second segment and are on each of other segments broken into two widely separated lateral patches, where those hairs are longer and stiffer. Ventrally each segment has a reddish hind margin, and is covered with short black hairs, so that by contrast venter of abdomen appears almost bare. A tuft of orange hairs covers genitalia dorsally, but through rotation this is brought into a ventrolateral position. Genitalia practically obscured by hairs, shining brownish-black.

FEMALE: unknown.

*Measurements:* body length 18 mm; wing length 14 mm; wing width 4.5 mm.

♂ - HOLOTYPE: Fernwood (Brits Distr., Tvl.), 6.II.1944 (G. van Son), in coll. Transvaal Museum.

The species has been named after Dr Georges van Son, entomologist at the Transvaal Museum, Pretoria, and collector of many new species of insects. Son or zon (Dutch) = sun, Lat. *sol*, genit. *solis*. The authors are grateful to Dr van Son and the Director of the Transvaal Museum for having given them the opportunity to study this interesting fly.

#### REFERENCES

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